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*Original Research*

# Characteristics and management of consultations requested from the emergency department and other outpatient clinics in a surgical oncology clinic

Management of consultations in the surgical oncology clinic

Şeref Dokcu[1], Mehmet Ali Çaparlar[2], Özhan Çetindağ[2], Musluh Hakseven[2], Salim Demirci[2]
[1] Department of Surgical Oncology, Health Sciences University, Gazi Yaşargil Training and Research Hospital, Diyarbakır
[2] Department of Oncological Surgery, Faculty of Medicine, Ankara University, Ankara,Turkey

**Abstract**
Aim: Interdepartmental collaboration is sought through consultations, which represent a common and important aspect of medical practice. Despite its importance, we have very little information due to the limited number of studies. In this study, we aimed to examine the differences between departments, as well as the characteristics and functioning of consultations requested from a surgical oncology clinic.
Material and Methods: Two hundred eighty-seven consecutive consultations requested by the emergency department and other departments were included in the study. The patients were categorized according to the characteristics of the consultations. The relationship between categorical variables was analyzed with the chi-square (x2 test) test or Fisher's exact test.
Results: Most consultations were requested during working hours (85%) and on weekdays (90%). Only 65% of the request forms contained sufficient information. The most common consultation request was from the emergency department (42%), the most common diagnosis was gastric cancer (24%), and the most common reasons for the request were surgical evaluation (30%) and bowel obstruction (29%). Only one interview was conducted with 56% of patients to end the consultation. Patients with a high Charlson comorbidity index were more likely to undergo major surgery (p = .004). Emergency department consultations were associated with early admission (p=0.00). Inadequate request forms were also associated with emergency department consultations (p=0.00).
Discussion: It should be noted that the inadequacy of the consultation text, which can be considered a communication failure during the consultation process, is not uncommon.

**Keywords**
Consultation, Emergency Medicine, Emergency Service, Medical Interconsultation, Patient Management

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Corresponding Author: Şeref Dokcu, Department of Surgical Oncology, Health Sciences University, Gazi Yaşargil Training and Research Hospital, Üçkuyu Mh., 21010, Kayapınar, Diyarbakır, Turkey.
E-mail: serefdokcu@hotmail.com P: +90 533 443 43 33
Corresponding Author ORCID ID: https://orcid.org/0000-0003-1807-8108

## Introduction

Consultation represents a common and important aspect of medical practice that requires a multidisciplinary approach. Hospital departments request the cooperation of other departments through medical consultations in the diagnosis and treatment stages of patients. When specialist assistance is required, prompt consultations are vital to provide patients with good medical care. This activity entails a significant workload in hospitals. However, it has also been shown that inpatient palliative care consultation programs save money in hospitals and provide better care for patients with serious illnesses [1]. Despite its importance, we know very little about this cooperation system between departments, as there are limited studies. COVID-19 has had a disastrous impact on health systems, jeopardizing the treatment of cancer patients. It has an increasing disease burden in the cancer population. As a result, tele-oncology services have become necessary to reduce cancer patients' risk of exposure to the deadly pathogen. Many government agencies have approved the use of tele-oncology during the COVID-19 era. Experience during the epidemic has shown that providing online treatment via videoconferencing is effective and well accepted by patients as it simulates a face-to-face meeting [2]. Video consultation is a special type of telemedicine that uses technology to provide remote real-time audio-visual patient assessment. There was evidence showing that it was both feasible and effective for use in the clinical care of oncology patients in the pre-epidemic period [3]. In fact, voice recording follow-up consultations are used by most clinics as an inexpensive procedure appreciated by the majority of patients [4].

Physicians may request a consultation in cases where they deem necessary. At the end of this process, the department consulted should provide one of the following recommendations: admission, discharge with or without physician follow-up, or consultation with another department. [5]. Mutual consultations have many issues, including the enforcement mechanism, limitation/transfer of liability, and flaws in communication. It is essential to have knowledge about these issues, to plan the work to be done in mutual consultation and to correct the issues that prevent their correct implementation [6,7].

There is very little information about the functioning of the consultation mechanism in Turkey, as in the rest of the world. Most of the existing studies, on the other hand, are mostly related to the emergency service consultation process reported by emergency physicians [8,9]. Surgical oncology clinics operate differently from other internal branch departments [7]. The positive impact of a well-functioning consultation mechanism on the quality of health delivery is obvious.

In this study, we aimed to evaluate the characteristics and management of consultations requested from our surgical oncology clinic, the causes of poor functioning, if any, and possible differences between departments. Our study is the first report that, to the best of our knowledge, evaluates consultations requested from the surgical oncology department.

## Material and Methods

### *Study design*

The study design was retrospective. The study was approved by the Medical Ethics Review Committee of Ankara University (Decision no: İ5-349-21, Date: 02-07-2021). The study was conducted in accordance with the Declaration of Helsinki. Between January 2018 and May 2021, medical records of 336 patients who were consulted in our Surgical Oncology clinic, primarily in the emergency department and other external clinics, were collected retrospectively in a single center through the electronic data system.

### *Study population*

Forty-nine patients were excluded and 287 patients were included in the study due to deficiencies in their data or the inability to reach the consultation request note. Patients were documented according to their demographic and clinical characteristics, and clinicopathological variables were recorded. The adequacy of the request text was evaluated by examining the consultation texts by two specialist physicians. Consultations were categorized according to the time of the request, the department making the request, and the reasons for the request. The patients were categorized according to the type of the first operation as major surgeries with resection and reconstruction, palliative minor interventions, and non-operated ones. In addition, medical treatment was classified as minor interventions (Paracentesis, PEG, Jejunostomy, Celiac and hypogastric nerve blocks, etc.), major interventions (bridectomy, organ resections and anastomosis) according to the treatment applied before and after hospitalization. Charlson comorbidity indexes were calculated from the files of all patients and included in the analysis.

### *Statistical Analysis*

All data analyses were performed using SPSS version 24.0 and data are presented as mean ± standard deviation (SD), median (min-max) for nonnormally distributed variables, and many cases and percentages (%) for nominal variables. The relationship between categorical variables was analyzed with the chi-square (x2 test) test or Fisher's exact test. Since no normal distribution was observed in the correlation analysis between the variables, the analysis was performed with the Spearman correlation test. Statistical analyses were performed with a confidence interval of 95 % and a p-value less than 0.05 was considered statistically significant.

## Results

### *Baseline characteristics*

The number of patients who were asked for consultation from our clinic within the specified period and included in the study was 287. The mean age of the patients was 58.87±15.2 (18-92) years; 141 (69%) of them were female and 146 (51%) were male. Patients who planned to be hospitalized could be admitted to our clinic after an average of 2.4±2(1-14) days. However, most patients (56.1%) were hospitalized within the first day. The mean Charlson comorbidity index was 5.9 ± 3.7 in total, 4.5±2.3 in those who had medical treatment and minor interventions, and 7.8± 4.2 in those who had major surgery. In the correlation analysis, patients with a high Charlson comorbidity index were found to be more likely to undergo major surgery (p = .004).

### *Characteristics of consultations*

### *Departments requesting a consultation*

The distribution of consultation requests by departments is

**Table 1.** Characteristics of requested consultations and patients

| | | Departments requesting consultation n (%) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Emergency | Medical oncology | Gastro enterology | Orthopedics | Gyneco oncology | Urology | Other | Total |
| Treatment | Medical | 78(27) | 2(1) | 2(1) | 0(0) | 0(0) | 0 | 4(1) | 86(30) |
| | Minor surgery | 18(7) | 9(3) | 6(2) | 6(2) | 0(0) | 0 | 18(6) | 57(20) |
| | Major surgery | 24(4) | 22(7) | 34(12) | 10(4) | 22(8) | 12(4) | 20(7) | 144(50) |
| Sufficiency | Insufficient | 60(21) | 5(1) | 10(4) | 3(1) | 3(1) | 5(2) | 5(2) | 91(32) |
| | Sufficient | 60(21) | 28(10) | 32(11) | 13(5) | 19(7) | 7(2) | 37(12) | 196(68) |
| Emergency status | Emergency | 68(24) | 16(5) | 6(2) | - | 7(2) | 3(1) | 16(5) | 116(40) |
| | Elective | 52(18) | 17(6) | 36(13) | 16(6) | 15(6) | 9(3) | 26(9) | 171(60) |
| Request (time) | Overtime | 92(32) | 33(11) | 42(15) | 16(6) | 22(8) | 10(3) | 29(10) | 244(85) |
| | Watch | 28(10) | - | - | - | - | 2(1) | 13(4) | 43(15) |
| Number of calls | 1 time | 51(18) | 24(8) | 23(8) | 13(4) | 14(6) | 12(4) | 25(9) | 161(56) |
| | 2 time | 46(16) | 8(3) | 17(6) | 3(1) | 4(1) | - | 16(5) | 94(33) |
| | 3 time | 23(8) | - | 2(1) | - | 4(1) | - | 1(0) | 30(11) |
| Duration of hospitalization, Day | 1 day | 87(31) | 11(4) | 3(1) | 5(2) | 7(3) | 4(1) | 17(6) | 134(46) |
| | 2 day | 29(10) | 4(1) | 15(5) | 5(2) | - | - | 11(3) | 64(22) |
| | ≥ 3day | 4(1) | 18(6) | 24(10) | 6(2) | 15(5) | 8(3) | 14(5) | 89(32) |
| | Total | 120(42) | 33(11) | 42(15) | 16(6) | 22(8) | 12(4) | 42(14) | 287% |

**Table 2.** Pre-consultation treatment characteristics of the patients.

| Diagnosis (localization of malignancy) | First operation n(%) | | | |
|---|---|---|---|---|
| | Major resection | Inoperable (only biopsy) | Nonoperated | Total |
| Gastric | 57(20) | 2(1) | 10(3) | 69(24) |
| Colon | 36(12) | - | 8(3) | 44(15) |
| Pancreas | 12(4) | - | 19(7) | 31(11) |
| Rectum | 14(5) | - | 4(1) | 18(6) |
| Small intestine | 4(1) | - | 4(1) | 8(2) |
| Esophagus | 5(2) | - | 4(1) | 9(3) |
| Uro-gynecology | 22(8) | - | 14(5) | 36(13) |
| Other | 36(12) | 2(1) | 24(12) | 72(25) |
| Total | 186(64) | 4(2) | 97(34) | 287(%) |

shown in Table 1. The relationship between the departments that requested termination of the consultation and frequency of requests differed significantly in the chi-square analysis (p=0.00). Accordingly, the frequency of visits to the emergency department was associated with the excess. Likewise, this relationship with hospitalization time was also significant (p=0.00). Emergency service consultations were associated with early admission.

*Reason for a consultation request*

Of the requested consultations, 85 (29.6%) underwent surgical indication evaluation, 82 (28.6%) ileus-subileus, 22 (7.7%) peritonitis carcinomatosis and ascites, 22 (7.7%) distant metastases, 18 (6.3%) ) were requested for anastomotic leakage and abscess, and 14 (4.9%) for diagnosis biopsy, 10 (3.5%) patients for GIS bleeding, local recurrence and nutritional evaluation, 14 (4.9%) for minor surgical interventions. Minor surgical procedures requested were port insertion, paracentesis, and core biopsy. A correlation was found between the reasons for consultation and the duration of admission to the clinic (p=0.00). Patients with pathology requiring emergency surgery (bleeding, ileus, anastomotic leakage, etc.) were hospitalized earlier (1 day), while patients who could be considered elective (biopsy, surgical indication, nutritional status assessment, etc.) were hospitalized for a longer time (≥2 days). Of the consultations, 171 (59.6%) were requested for elective reasons and 116 (40.4%) for urgent reasons.

*Consultation forms*

In 196 (68.3%) patients whose consultation request forms were examined, the forms were sufficient, while the request forms of 91 (31.7%) patients were considered insufficient. In the correlation analysis, the admission time to our clinic was longer in patients whose request form contents were not sufficient (p=0.012). In addition, in the analysis performed with the clinics that made the request, we found that insufficient requests were associated with the emergency department (p=0.00).

The distribution according to the consultation request time and frequency is shown in Table 1.

*Diagnosis*

The distribution of the patients according to their diagnosis is shown in Table 2. The majority of the rare malignancies group consisted of melanomas, skin tumors, and soft tissue sarcomas.

*Treatments*

The treatment characteristics of the patients are shown in Table 2. After the consultation, major operations such as bridectomy, resection, and reconstruction were performed in 144 (50.2%) patients, and noninvasive and minor interventions (such as paracentesis, PEG, nerve blockade) were performed in 57 (19.9%) patients, but only 86 (30%) patients. He was given medical treatment without intervention. However, 86 (30%) of them were given medical treatment without any intervention.

## Discussion

Consultations have an important place as a widely used consultation and support request mechanism among different disciplines of medicine. Despite its importance, we know very little about this mechanism of collaboration between departments, particularly about identifying shortcomings from both perspectives. The ineffectiveness of mutual consultations

also brings an economic cost [7].

For the effectiveness of these consultations, the centers record the consultation request and response texts, providing a preliminary preparation for other physicians who will evaluate the patient, and providing a basis for solving possible medico-legal legal problems. For this reason, the consultation texts must be filled in clearly and precisely. We determined that one-third (32%) of the consultation forms we examined in our study were problematic and inadequate. In our analysis, we found that this situation prolonged patient admission times. In particular, we encountered this problem in half of the consultations requested from the emergency department. In fact, in the analysis, the relationship between problematic requests and emergency services was significant. This explains the frequency of multiple visits to the emergency department, which has reached statistical significance. In a study conducted by scoring the adequacy of consultation forms requested from an internal medicine department, only 38.3% of emergency service consultations and 43.4% of inpatient consultations were determined to be good or very good. Consultation request texts are generally insufficient and do not inform the relevant physicians sufficiently [8].

One of the reasons for the high frequency of visits to the emergency department was probably the missing tests requested. This attitude is generally adopted by all professionals. In a study conducted by the Department of General Surgery, it was observed that although 92% of the consultations requested were from the emergency department, no examination was requested from 21% of the patients before the consultation [9]. These conditions are probably due to the frequent seizure circulations of emergency room physicians. It is especially important to draw attention to problematic patients who are not terminated during the seizure phase. Such problems were less common in consultations requested by other inpatient clinics. Because of the perceived difficulty with consultations, strategies to improve the emergency physician consultation process in the emergency department seem necessary [5].

The department that requested consultation most frequently was the emergency service (42%). Most emergency department consultations at academic centers result in acceptance [5]. Despite the uncertainty in the emergency service consultation forms, 65% of the patients hospitalized on the first day consisted of emergency service admissions. We found that the request for consultation from the emergency department was associated with early hospitalization.

Another aspect of the requested consultations was their distribution over the weekly time frame. Although the weekday consultations corresponded to 90% of all consultations, half of them took place on the start and end days of the weekend holiday (Friday, Monday). The increase in requests on Fridays is not justified by the increased number of patients, as on Mondays, but is probably due to the uncertainty of the weekend causes for the physicians responsible for patients. One of the reported reasons for requesting an interim consultation is assumed to reduce the physician's anxiety in the sensitive clinical setting [7].

Gastric cancer was the most common diagnosis, which was observed in a quarter of the consulted patients. Digestive system tumors are the most common reason for admission to surgical oncology outpatient clinics after breast cancer [10]. Sixty-five percent of the patients were oncological patients who had previously undergone major resection and reconstruction. After consultation, major surgeries requiring resection and reconstruction were performed in half of the patients. This justifies the requested emergency consultations. The most common reason for requesting consultation was evaluated in terms of surgical indication in elective patients, and applications due to ileus-subileus in emergency patients. One-third of the patients consisted of patients who were hospitalized for palliative care and received medical treatment. These patients who are terminal cancer patients or who are not considered to benefit from hospitalization are stretching the hospitalization criteria of physicians due to social indications and medico-legal reasons. Since our clinic has a separate intensive care unit, admissions to our clinic are mostly accepted rather than palliative care units. Indeed, this patient group, which is seen as a problem in Turkey and even all over the world, is waiting for an urgent solution [10].

Finally, consultation is a two-way process, and data on views on the process were obtained only from the perspective of emergency room physicians. In future work, consultants should be involved to hear their views on consultation processes. High-quality patient-centered care relies on effective patient-physician communication [11].

Differences are especially great in the mortality rates of cancer patients who apply to the emergency department for surgical consultation [12]. Vandyk et al. investigated range, prevalence, and outcome of treatment-related or disease-related symptoms for cancer patients presenting to the emergency department; they found variation and inconsistency in reporting symptoms and mortality [13].

Therefore, the emergency service consultation system is of great importance.

### *Conclusion*

As a result, it should be noted that the inadequacy of the consultation text, which can be considered a communication failure during the consultation process, is not uncommon and may adversely affect patient care, cost-effectiveness, and even education in academic centers. This behavior is similar in both medical and surgical fields. Correction of these problems is important for hospital activity. Possible measures that can be taken to address these problems would be the initiation of joint care (comanagement) and, as far as possible, the standardization and protocolization of conversations.

### *Study Limitations*

Our study has limitations due to its retrospective nature. There is also a need for studies on the initiation of joint care (co-management) and, as far as possible, the standardization and protocolization of mutual talks.

#### *Scientific Responsibility Statement*

*The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.*

#### *Animal and human rights statement*

*All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with*

*the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.*

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***Conflict of interest***

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